

TOWN OF FREDERICK, COLORADO
ORDINANCE NO. _____

**AN ORDINANCE OF THE TOWN OF FREDERICK COLORADO, AMENDING
THE FREDERICK BUILDING CODE, AS INCORPORATED IN THE TOWN OF
FREDERICK MUNICIPAL CODE, 1992 AS ARTICLE I, CHAPTER 18.**

WHEREAS, the Town of Frederick Municipal Code, Article III, Chapter 18 substantially adopted and incorporated the International Fire Code, 2006 edition, as drafted by the International Code Council (ICC) (the Town Fire Code); and

WHEREAS, the Town Fire Code includes amendments and additions to the ICC code set, specific to the Town of Frederick; and

WHEREAS, the Fire Chief for the Town of Frederick has identified certain emergency communication concerns not addressed in the Town Fire Code that bear on the health and safety of people working in and rescue responders called to commercial buildings with more than 50,000 ft² of interior space;

WHEREAS, the Board of Trustees of the Town of Frederick finds it necessary to amend the Town of Frederick Municipal Code, 1992, make the Code consistent with Town practices, repeal inapplicable and remnant provisions, and to clarify and improve public understanding of Town procedures.

**BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF
FREDERICK, COLORADO, AS FOLLOWS:**

Section 1. Article III of Chapter 18, (International Fire Code) of the Frederick Municipal Code is hereby amended through the adoption of a new Subsection 18-71.5(4) to read as follows:

“Sec. 18-71.5. Amendments.

...

(4) A part 5 is adopted to address Public Safety Radio Amplification Systems as follows:

"Sec. 511.5 General. Public safety radio amplification systems for the enhancement of emergency services communications within buildings shall be designed, installed and maintained in accordance with this section.

"Sec. 511.6 Approval and Permit. Plans shall be submitted for approval prior to installation. At the conclusion of successful acceptance testing, a renewable permit shall be issued for the public safety radio enhancement system by the Town.

"Sec. 511.7 Where required. Where adequate radio coverage cannot be established within a building, as defined by the Fire Chief, public safety radio amplification systems shall be installed in the following locations:

1. New buildings with a total building area greater than 50,000 square feet. For the purpose of this section, fire walls shall not be used to define separate buildings.
2. All new basements over 10,000 square feet.
3. Existing buildings meeting the criteria of Item #1 or 2 of this section undergoing alterations or additions exceeding 50% of the existing aggregate area of the building as of the date of this ordinance.

Exceptions:

1. One- and two-family dwellings and townhouses.
2. If approved by the Fire Chief, buildings that provide a documented engineering analysis indicating the building is in compliance with radio reception levels in accordance with Section 511.3 and final on-site testing.

"Sec. 511.8 Design and installation. Public safety radio amplification systems shall be designed and installed in accordance with the criteria established by the Fire Chief based on the capabilities and communication features of the jurisdictions providing the emergency services. Except as otherwise provided in this article, no person shall erect, construct, or modify any building or structure or any part thereof, or cause the same to be done which fails to support adequate radio coverage for emergency services providers.

1. After a building permit has been issued, upon request by the owner or the owner's agent, the fire department will, within ten to fourteen days, identify the frequency range or ranges that must be supported.
2. In the event that an emergency service provider modifies its communications equipment in any way that impairs its ability to communicate with an existing system installed in accordance with this article, such agency shall be responsible for all costs associated with reestablishing communications within the affected building or structure.
3. For purposes of this section, adequate radio coverage shall constitute a successful communications test between the building and the communications centers for all appropriate emergency service providers for the building.

Inbound into the building: A minimum average in-building field strength of (-95 dBm) throughout 100% of the area of each floor of the building when transmitted from the appropriate emergency service dispatch centers which are providing police, fire and emergency medical protection services to the building.

If the field strength outside the building where the receiver antenna system for the in-building system is located, is less than the -95 dBm, then the minimum required in-building field strength shall equal the field strength being delivered to the receive antenna of the building.

As used in this part, 100% coverage or reliability means the radio will transmit 85% of the time at the field strength and levels as defined in this part.

Outbound from the building: A minimum average signal strength of (-95 dBm) as received by the appropriate emergency service dispatch centers which are providing police, fire and emergency medical protection services to the building.

FCC Authorization: If amplification is used in the system, all FCC authorizations must be obtained prior to the use of the system. A copy of these authorizations shall be provided to the Town of Frederick.

"Sec. 511.9 Enhanced Amplification Systems. Where buildings and structures are required to provide amenities to achieve adequate signal strength, such buildings and structures shall be equipped with any of the following to achieve the required radio coverage: radiating cable systems, internal multiple antenna systems with a frequency range as established in Section 511.4, with amplification systems as needed.

If any part of the installed system or systems contains an electrically powered component, the system shall be capable of operation on an independent battery and/or generator system for a period of at least 12 hours without external power input or maintenance. The battery system shall automatically charge in the presence of external power input.

The public radio enhancement system shall include automatic supervisory and trouble signals for malfunction of the signal booster(s) and power supplies that are annunciated by the fire alarm system.

"Sec. 511.10 Final Acceptance Test. A minimum signal strength of -95 DBM must be receivable in 90% of the area of each floor of the building when an 700/800 MHZ radio signal is transmitted from the nearest public safety radio communication site.

A minimum signal strength of -95 DBM must be received at the nearest public safety radio communication site when an 700/800 MHZ radio signal is transmitted from 90% of the area of each floor of the building.

The 700/800 MHZ frequency range must be able to be received and transmitted within 90% of the structure 95% of the time.

"Sec. 511.11 Testing Procedures. Tests shall be made using frequencies close to the frequencies used by the emergency services agencies. If testing is done on the actual frequencies, then this testing must be coordinated with the appropriate emergency services agencies. All testing must be done on frequencies that are authorized by the FCC. A valid FCC license will be required if testing is done on frequencies different from the police, fire or emergency medical frequencies.

Where in-building radio coverage is required, and upon completion of the installation, it will be the building owner's responsibility to have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 90%.

Each floor of the building shall be divided into a grid of approximately 20 equal areas. A maximum of two (2) nonadjacent areas will be allowed to fail the test. In the event that three of the areas fail the test, in order to be more statistically accurate, the floor may be divided into 40 equal areas. A maximum of four (4) nonadjacent areas will be allowed to fail the test.

"Sec. 511.12 Annual Tests. Annual tests shall be the building owner's responsibility to have all active components of the system, such as signal boosters, power supplies, and backup batteries tested at a minimum of once every 12 months. If the communications appear to have degraded or if the tests fail to demonstrate adequate system performance, the owner of the building or structure is required to remedy the problem and restore the system in a manner consistent with the original approved criteria.

If the degradation to the system is due to building additions or remodeling, the owner of the building or structure is required to remedy the problem and restore the system in a manner consistent with the original approval criteria in order to obtain a final inspection for occupancy.

Any system degradation or failure not related to the performance of the owners on-site system will be the responsibility of the appropriate emergency service agency.

"Sec. 511.13 Maintenance. Public safety radio amplification systems shall be maintained in an operative condition at all times and shall be replaced or repaired where defective. A complete and accurate maintenance log shall be kept at the site at all times, and shall, at a minimum, include the following information:

1. Installing Contractor
2. Site Address
3. Maintenance Performed
4. Maintenance Contractor"

Section 2. Effective date. This ordinance shall be published and become effective as provided by law.

Section 3. Severability. If any part, section, subsection, sentence, clause, or phrase of this ordinance is for any reason held invalid, such invalidity shall not affect the validity of the remaining sections of the ordinance. The Town hereby declares that it would have passed the ordinance including each part, section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more part, sections, subsections, sentences, clauses, or phrases be declared invalid.

Section 4. Repealer. All ordinances or resolutions and motions of the Board of Trustees of the Town of Frederick or parts thereof in conflict with this ordinance are, to the extent of such conflict, hereby superseded and repealed, provided that such repealer shall not repeal the repealer clauses of such ordinance, resolution or motion, nor revive any ordinance, resolution, or motion thereby.

**INTRODUCED, READ, PASSED, ADOPTED AND ORDERED PUBLISHED
THIS 9th DAY OF March, 2010.**

ATTEST:

TOWN OF FREDERICK

By _____
Nanette S. Fornof, Town Clerk

Eric E. Doering, Mayor